

HCV-related liver cirrhosis and chronic kidney disease.

Difficulties in diagnostics on the example of a clinical case.



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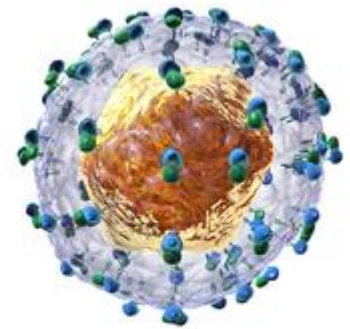
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Introduction



Hepatis C Virus (HCV)

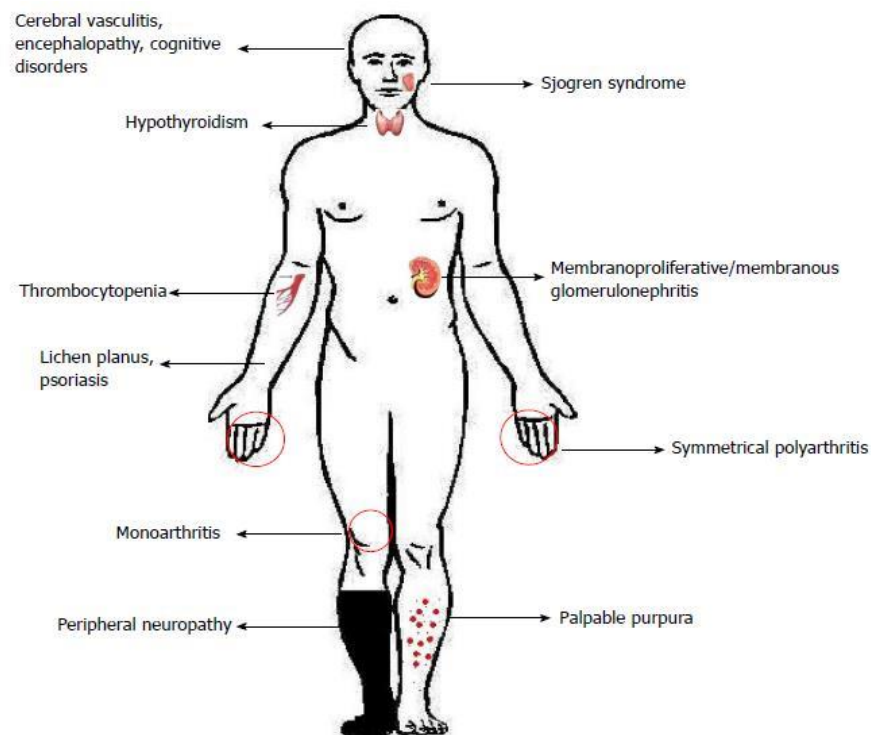
- **Hepatitis C** is a contagious disease caused by the hepatitis C virus (HCV) that primarily affects the liver. During the initial infection, there are mild or no symptoms.
- Spread by blood-to-blood contact, sexually and perinatally.
- No vaccine is available to prevent hepatitis C.
- About 130–170 million persons are infected worldwide.
- More than 350,000 people die every year.

Extrahepatic manifestations



- **Mixed cryoglobulinemia vasculitis** - is a small vessel vasculitis involving mainly the **skin**, the **joints**, the **peripheral nerve system** and the **kidneys**.

- Most common are:
 - **Purpura**
 - **Arthralgia**
 - **Glomerulonephritis**
 - **Widespread vasculitis**
 - **Diabetes type 2**



Our patient



- Name: S. A. B.
- Sex: Male
- Age: 53 Years
- Location: Kharkiv
- Occupation: Lawyer
- Name of referral institution: Kharkiv Hospital #13
- Date of admission: 25.10.16
- Patient was treated as inpatient.



Complaints



- Swollen face, lower extremities, abdomen.
- General weakness, fatigue, malaise.
- Temperature increase to subfebrile numbers in the evening.
- Blunt pain in the left flank of abdomen, left flank of the lumbar region.



Anamnesis Morbi



- Considers himself ill since 02.10.16 when weakness appeared in combination with dry cough and febrile temperature (up to 39°C). Was hospitalized to Kharkiv hospital #13 where community acquired right sided pneumonia was diagnosed according to the results of X-ray.
- Additional investigations revealed signs of renal failure (blood biochemistry: serum creatinine – 321 $\mu\text{mol/l}$, urea – 11,2 mmol/l) and liver pathology (USI of abdomen: Ascites. Hepatomegaly. Parenchymatous dystrophy of liver, II stage).

Anamnesis Morbi



- During staying in hospital haematuria added (urinalysis: RBC – 5-10 in HPF).
- Patient suffers from CKD on a background of chronic pyelonephritis, secondary arterial hypertension for about 15 years. Was treated for many times due to exacerbations.
- After pneumonia been treated, the patient was directed to Kharkiv Emergency Hospital for further treatment and investigation.

Anamnesis Vitae



- Was born in a full family, developed according to age.
- Works as a lawyer.
- Feeds regularly and adequately.
- Denies malaria, tuberculosis, diabetes mellitus, dermatovenereologic diseases and viral hepatitis.
- Denies allergic reactions to drugs.
- Denies smoking, alcohol intake and drug addiction.
- Parents have history of cardiovascular diseases.
- Didn't follow doctor's recommendations in treatment and prophylaxis of chronic pyelonephritis.

Status Presence

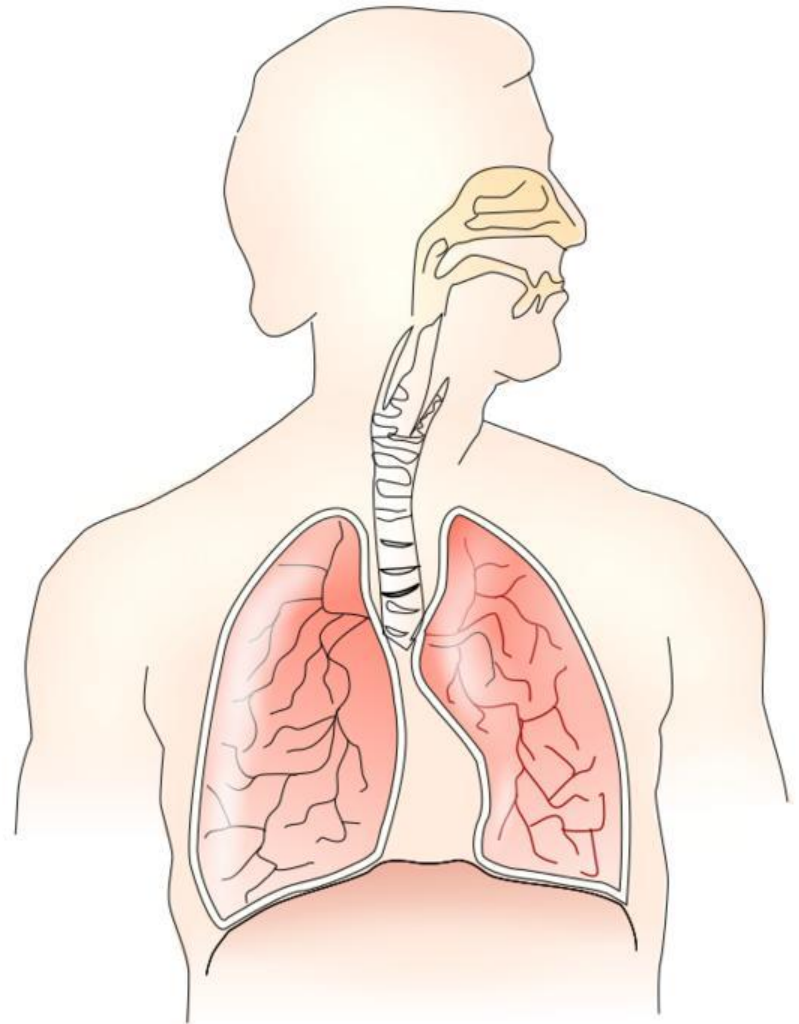


- Condition is satisfactory, clear consciousness, active and emotionally stable.
- Hypersthenic type of body constitution (BMI = 28.4 kg/m²)
- Skin and visible mucous membranes are pale pink and clean.
- Signs of periorbital edema, shin edema and ascites.
- Musculoskeletal system examination unremarkable.

Status Presence



- **Respiratory System:**
Percussion – normal lung sound on the left side, slight dullness below VI rib on the right side;
Auscultation – vesicular breathing on the left side, weakened breathing below VI rib on the right side.
Breathing rate = 17/min.



Status Presence



- **Cardiovascular system:**

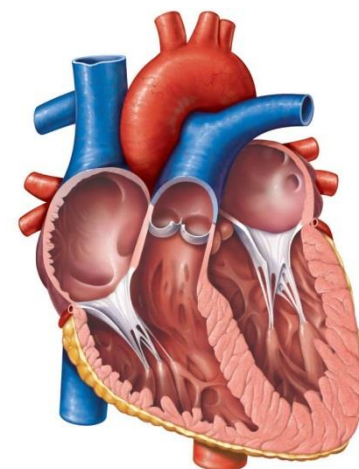
Heart borders extended to the left on 2,0 cm of midclavicular line, HR = Ps = 73 bpm, regular.

No pulse deficiency.

Heart sounds are muted, accent of the II tone above the aorta.

BPdex = BPsin= 150/90 mm Hg

(on the background of antihypertensive therapy due to secondary hypertension).



Status Presence



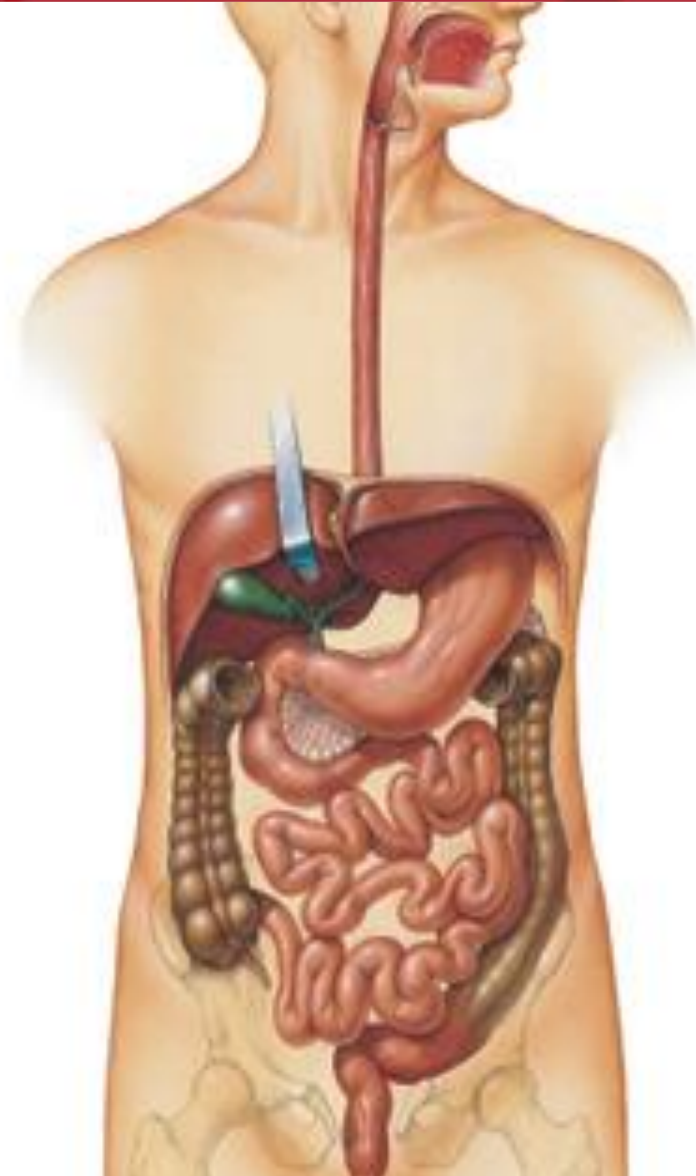
- **Gastrointestinal system:**

Abdomen is distended due to ascites, painless. No visible peristalsis.

Liver edge is hard, painless, palpated at the costal arch.

Spleen and pancreas are not palpable.

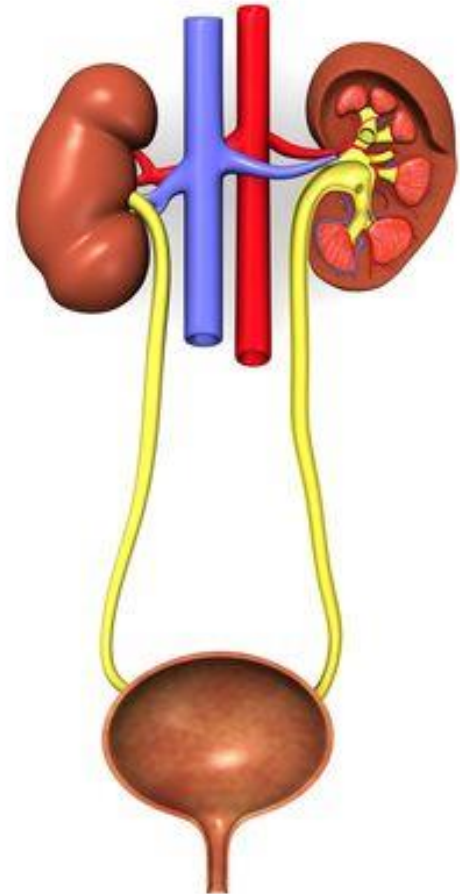
Stool is normal.



Status Presence



- **Urinary system:**
Kidneys are not palpable.
Pasternatsky's sign negative
on both sides.
Urination is normal.



Plan of survey



- **CBC**
- **Urinalysis**
- **Biochemical panel (bilirubin, ALT, glucose, creatinin, lipids)**
- **Coagulogram**
- **Chest X-ray**
- **ECG**
- **EchoCG**
- **Abdominal USI**



CBC (25.10.16)



Parameters	Result	Normal range
Hemoglobin	103	M 130 - 160 g / l
Erythrocytes	3.1	M 4.0-5.0 T / l
Color Index	0.8	0.85 – 1.15
Leukocytes	10.3	4,0 – 9,0 g/L
ESR	23	M 2-12 mm/h
Stab neutrophils	2	1-6 %
Segmented neutrophils	58	47-72 %
Eosinophils	1	0,5-5,0%
Basophils	-	1-1,0 %
Lymphocytes	33	19-37%
Monocytes	6	3-11 %
Platels	263	160-320 g/L

Conclusion: anemia, leukocytosis, increased ESR.

Serum iron level



Parameters	Result	Normal range
Serum Ferrum	8.6	M 11.6-31.3 mcmol/ L



Conclusion: decreased serum iron level.



↓ serum Fe + ↓ RBC = Iron deficiency anemia.

Urinalysis (25.10.16)



Parameters	Result	Normal range
Specific gravity	1.011	1.001-1.040
Reaction	6.0	5.0-7.0
Protein	1.67	0.033 g / l
Glucose	Absent	Absent
Erythrocytes	>50/HPF, unchanged	0-2
Leucocytes	10/HPF	6-8
Epithelium	1-2	Not detected
Bacteria	Not detected	Not detected

Conclusion: proteinuria, macrohematuria, leukocyteuria.



**Massive hematuria + Proteinuria (<3,5 g/l) +
Hypertension = Nephritic Syndrome.**

Biochemical blood test (27.10.16)



Parameters	Results	Normal range
AlAt	51	<41 u/L
AsAt	43	<37 u/L
Total bilirubin	27.3	1,7-21,0 mmol/L
Creatinine	478	53-97 mcmol / L
Urea	25.2	<8.3 mmol/ L
Total protein	67	65-85 g/ L
Glucose	5.3	4,2-6,1 mmol / L

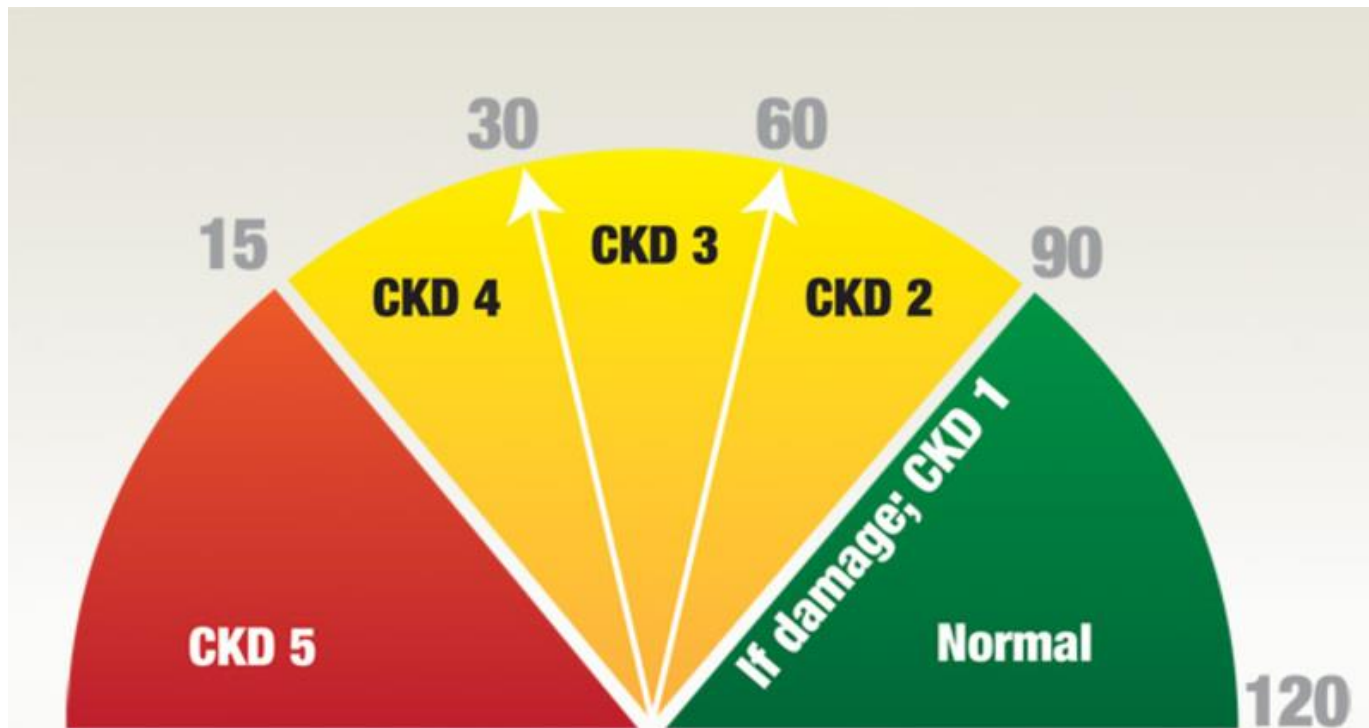
Conclusion:

- increased AlAt and AsAt, bilirubinemia (markers of **liver affection**);
- increased creatinine and urea (markers of **renal insufficiency**).

GFR (Cockcroft-Gault)



- **GFR = 19 ccs/min**
- **=> CKD 4**



Coagulogram (26.10.16)



Parameters	Results	Normal range
Protrombine index	95	85-110%
Fibrine	3.1	2-4 g/ L
Recalcification time	54	50''-70''

Conclusion: all parameters are in normal range.



Chest X-Ray



- Focal and infiltrative changes in the lungs were not identified.
- Signs of venous hypertension
- Heart aortic configuration, extended to the left. Aorta is sclerotic in the arcus region.

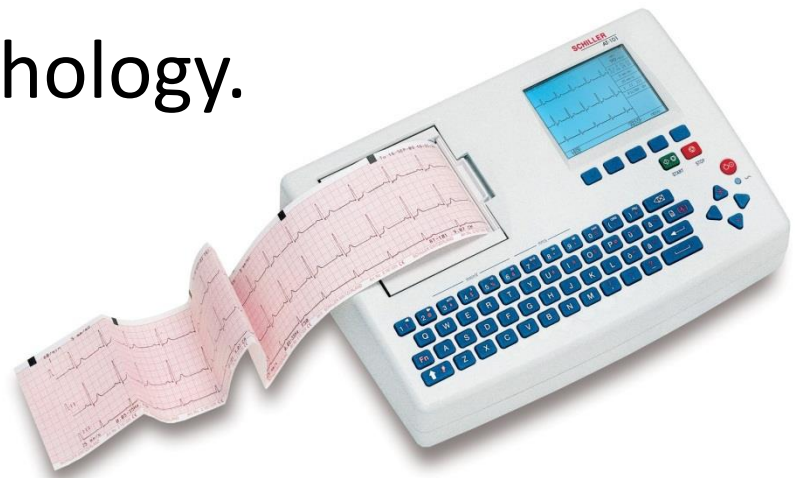
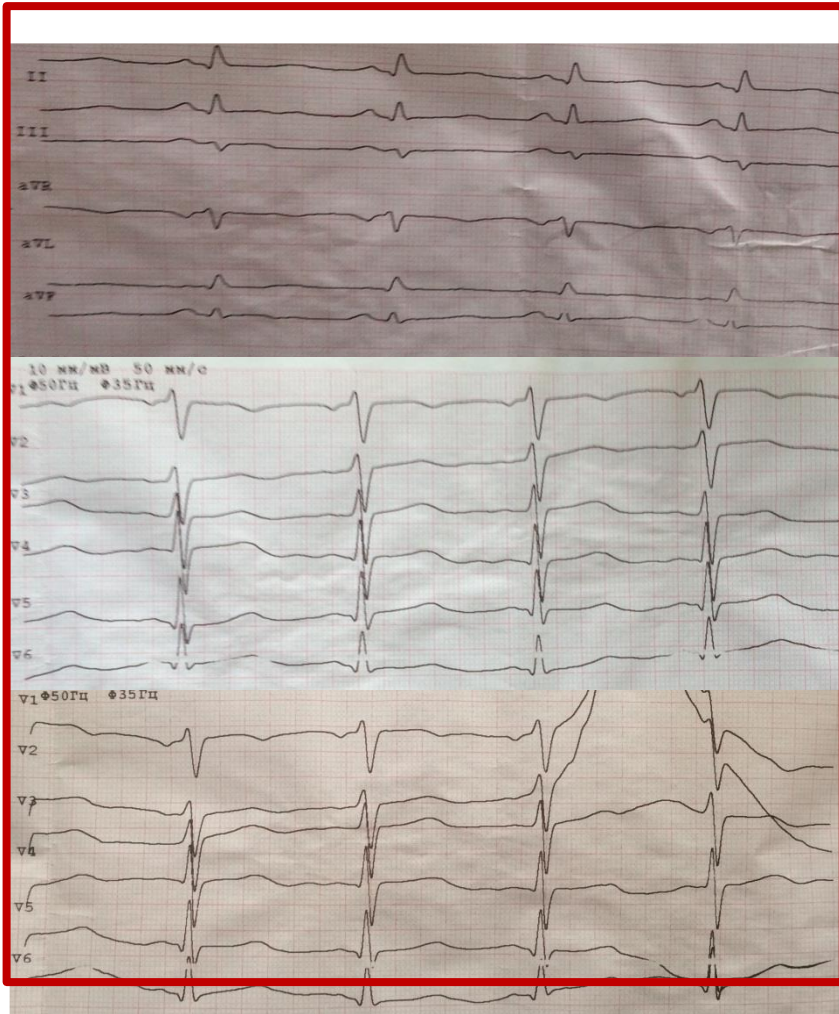


ECG



Conclusion:

Sinus rhythm. Heart rate = 87 bpm. **Left ventricle hypertrophy. Diffuse disturbances of repolarization.** No acute pathology.



Sonography



- **Echocardiography:**
Aortocardiosclerosis. LV hypertrophy. Dilation of all heart chambers. Signs of pulmonary hypertension. EF = 68%
- **Abdominal USI:** Hepatomegaly. **Diffuse liver cirrhosis.** Signs of portal hypertension. **Chronic pyelonephritis. Contracted right kidney. Ascites** (up to 3 L).





Additional investigations

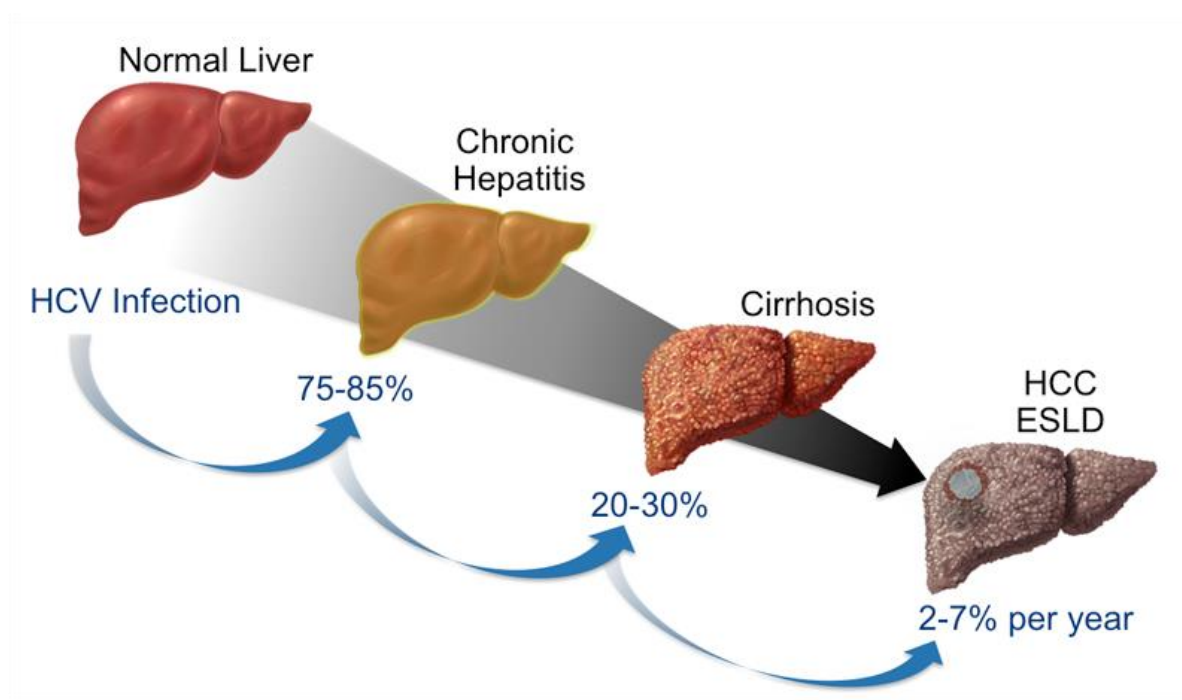


- **Viral hepatitis panel**

Viral hepatitis panel



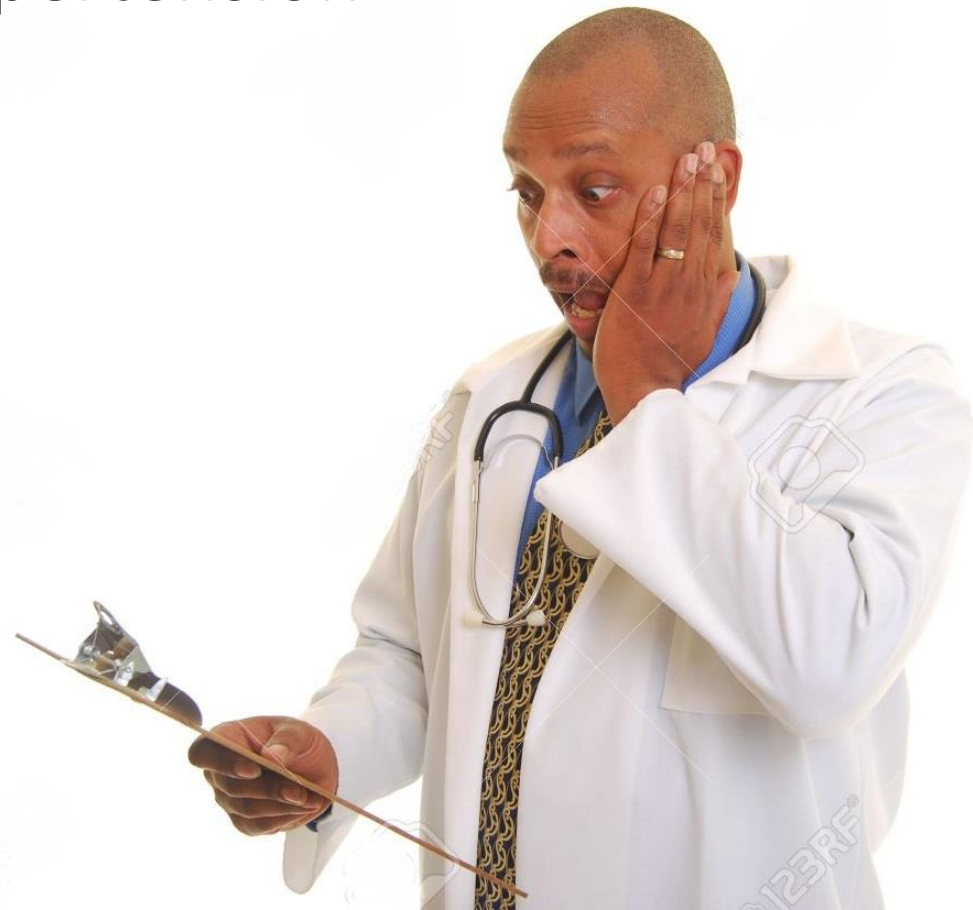
Parameter	Result	Normal range	Conclusion
Anti-HAV Ig M	0.059	<0.246	Negative
HBsAg	0.025	<0.078	Negative
Anti-HCV (total count)	1.638	<0.222	Positive (anti-HCV (S/CO) – 7.4)
HCV RNA	Positive	Negative	Positive (active hepatitis C)



Basic clinical syndromes



- Renal failure
- Secondary arterial hypertension
- Liver cirrhosis
- Hypochromic anemia
- Cardiosclerosis
- Ascites



Diagnosis



- HCV-associated liver cirrhosis, decompensation phase.
- Ascites.
- CKD IV, chronic glomerulonephritis. Secondary arterial hypertension. Secondary contracted right kidney.
- Hypochromic iron deficiency anemia.
- Ischemic heart disease, atherosclerosis.



Treatment



- **No sense in etiotropic treatment** due to late stages of the development of the process.
- **The goal** is to compensate organic insufficiency (renal and hepatic).



Treatment



- **Lisinopril 10 mg** 1 tab per day in the evening p/o under the control of BP.
- **Furosemide 40 mg** 2 times per day IV drop.
- **Verorospiron (Spironolactone) 100 mg** 1 time per day p/o in the morning.
- **Carboline** (sorbent) 1 spoon 2 times per day p/o.
- **Ferrum Lek** 1 tab. 3 times per day (protractedly) p/o.



Recommendations



- Supervision of local gastroenterologist, nephrologist, cardiologist.
- Low-salt and low-protein diet
- Regular treatment with uroantiseptics (Nitroxolone, Palin, Canephron).
- Intestinal dialysis with Young's solution.
- Consultation of infectionist.
- Consultation in Urologic Centre about hemodialysis and kidney transplantation.
- Check liver cancer markers.



Prognosis



- Prognosis for life - **non-satisfactory**
- The prognosis for recovery - **unfavorable**

Conclusion



- Our clinical case is an example of the importance of wide diagnostic search and exclusion of all possible pathologies in each case and individual approach to each patient.
- It's exceptionally important to provide a timely evaluation of such diagnosis and modern appropriate therapy.





Conclusion



- The patient have low compliance, didn't pay enough attention to his health which lead to very late diagnostics of Hepatitis C (after development of Cirrhosis).
- In case of this patient, early diagnostics of HCV would have prolong his life and significantly increase quality of his life by avoiding such complication as development of Cirrhosis and HCV associated Chronic kidney disease.



Thank you!



**KEEP
CALM
AND LOVE
INTERNAL
MEDICINE**